

THE IMPACT OF THE NEW AIR MONITORING REGULATIONS ON TRIBAL AIR MONITORING

A First Look

What Types of Monitors Do Tribes Operate?

REAL-TIME CONTINUOUS AIR QUALITY MONITORING

NO_x, SO_x, CO, CO₂, PM 2.5, O₃, Scene Monitoring



PM2.5 FRM Sampling



IMPROVE Monitoring
(Interagency Monitoring of Protected Visual Environments)



NADP (National Atmospheric Deposition Program) Monitoring



Preamble to Part 58

Under the **Tribal Authority Rule (TAR)** (40 CFR part 49), tribes may elect to be treated in the same manner as a state in implementing sections of the CAA. However, EPA determined in the TAR that it was inappropriate to treat Tribes in a manner similar to a state with regard to specific plan submittal and implementation deadlines for some NAAQS-related requirements.

For example, **an Indian Tribe may choose, but is not required, to submit implementation plans for NAAQS related requirements, nor is any tribe required to monitor ambient air.**

If a tribe elects to do an implementation plan, the plan can contain program elements to address specific air quality problems in a partial program. **The EPA will work with the tribe to develop an appropriate schedule for making any appropriate monitoring system changes which meet the needs of each tribe.**

Preamble to Part 58 (cont.)

Indian Tribes have the same rights and responsibilities as States under the CAA to implement elements of air quality programs as they deem necessary. **Tribes can choose to engage in ambient air monitoring activities.**

In many cases, **Indian Tribes will be required by EPA regions to institute quality assurance programs that comply with 40 CFR part 58 appendix A, utilize FRM, FEM, or ARM monitors when comparing their data to the NAAQS, and to insure that the data collected is representative of their respective airsheds.**

For FRM, FEM, or ARM monitors used for NAAQS attainment or nonattainment determinations, **quality assurance requirements** of 40 CFR part 58 **must be followed** and would be viewed by EPA as an indivisible element of a regulatory air quality monitoring program.

Executive Order 13175 Consultation & Coordination with Indian Tribal Governments

This final rule does not have tribal implications, as specified in Executive Order 13175. **The final amendments will not directly apply to Tribal governments.** However, a Tribal government **may elect to conduct ambient air monitoring and report the data to AQS.** Since it is possible that **tribal governments may choose to establish and operate NCore sites as part of the national monitoring program**

EPA consulted with Tribal officials early in the process of developing the proposed rule to permit them to have meaningful and timely input into its development and after proposal to discuss their comments and concerns. As discussed in section VI.E of this preamble, tribal agencies were represented on both the NMSSC and the workgroups that developed the NAAMS document and proposed monitoring requirements. Tribal monitoring programs were represented on both the Quality Assurance and Technology work groups. Participation was also open to tribal monitoring programs on the regulatory review workgroup.

When Do Various Sections of These Regulations Apply to Tribes?

- **Yes**, if the data will be used for determining attainment or non-attainment of NAAQS or PSD.
- **Yes**, if the monitoring is funded by EPA and there are specific grant conditions that reference these regulations
- **No**, if the monitoring not funded by EPA and the data will not be used for EPA regulatory purposes

So, What Part 58 Regulations Apply to the Tribes?

- **SLAMS monitoring requirements**, if the tribe is operating a SLAMS monitoring site as part of an approved state air monitoring network.
- **An Annual Air Monitoring Certification** may be required as a grant condition. Tribes should certify their data, if they are planning on using the data for regulatory purposes.

So, What Part 58 Regulations Apply to the Tribes (cont.)

- **Air Quality Data reported to AQS** (or other national data repositories as IMPROVE or NADP), may be required as a grant condition or for PSD. If the tribe wants to use the data for other regulatory purposes, the data should be entered in AQS.
- **NOTE:** QA data must also be entered in AQS.
- **Use of FRM, FEM, ARM monitors** are required for PSD and to determine compliance of NAAQS.

So, What Part 58 Regulations Apply to the Tribes (cont.)

- **Appendix A QA Requirements** are mandatory for PSD, NAAQS determinations and as a grant condition for EPA Grants.
- **Appendix E Probe Siting Criteria** are mandatory for PSD and other regulatory purposes. Tribes should either meet these siting requirements or obtain a waiver. This also may be a grant condition.

Part 50 Monitoring Issues

- **Finalize PM2.5 FRM improvements as proposed**
 1. **Very Sharp Cut Cyclone (VSCC)** as an approved second stage separator for PM_{2.5}. This would be in addition to the WINS
 2. Use of **Diethyl Sebacate (DOS) oil** as an alternative oil in the WINS
 3. Extend **filter recovery extension time**; 96 hours → **177 hours** (7 days, 9 hours)
 4. Modify filter transport temperature and post-sampling time requirements for final laboratory analysis; **filter transport temperature maintained at or below average ambient temperature during sampling** allows up to 30 days for post sampling conditioning and weighing.
- **PM2.5 data interpretation now includes criteria for spatial averaging in part 50 instead of part 58.**

VSCC



AQS Data Submittal and Certification

Data Reporting

- Quarterly data reporting **remains the same** – within 90 days past the end of the quarter
 - Pollutant Data - SO₂, CO, O₃, NO₂, NO, **NO_x**, NO_y, Pb, PM₁₀, PM_{2.5}, PM_{10-2.5}, chemical speciation
 - Other information - PM_{2.5} sampler-generated Temp, BP, and field blank mass for filter based FRM/FEMs
 - Met Data - NCore multi-pollutant sites and PAMS
- 6-month Data Reporting – past the end of the quarter
 - VOC, and if collected, carbonyl, NH₃, and HNO₃
- **Certification**
 - Move up certification date from July 1 to May 1, starting in **2010 (proposal was 2009)**.

Changes in the QA Regulations (40 CFR Part 58 Appendix A)

- Ensure regs reflect current EPA QA Policy and requirements
 - QAPP/QMP, QA Manager (Lead), Graded Approach
 - Majority endorsement, some concern on requiring a QA Manager but the language identified a QA management function.
- Combined Appendix A and B (PSD) – Endorsed
- DQOs for PM_{10-2.5} and O₃ identified – Endorsed
- Removed out of date QA methods
 - SO₂/NO₂ Manual Audit Checks- Endorsed
- Revised Performance Evaluation Language of PEP and NPAP
 - Monitoring org responsibility but allows for continued Federal implementation
 - Major area of concern due to shift in NPAP program to STAG funding.
 - Some concerns about technical approach and frequency
 - Concerns about definitions of adequacy and independence.
 - EPA feels strongly about the need to implement independent audits to provide for some quantitative assessment of comparability.
- Expanded audit concentration levels for precursor gas monitoring
 - Endorsed, but some concern expressed about how one would select the 3 (out of 5) audit levels. Expanded text to include additional guidance for audit level selection

QA Regulations (Continued)

- Reduced burden where it showed that we could
 - PEP Reduction
 - From 25% of sites 4 times a year to 5 audits for organizations with ≤ 5 sites and 8 audits for organizations with > 5 sites
 - Majority endorsed, some still concerned we were asking too much
 - EPA provides statistical report justifying data need
 - PM Collocation Reduction –
 - number of sites 25% to 15%
 - Sampling frequency 1-in-6 days to 1-in 12 days
 - Modified PM_{10-2.5} requirement since fewer sites are expected
 - Majority endorsed, few concerned about not enough data for PM_{10-2.5}
 - Standardized PM monitoring flowrate verification and audit frequencies
 - Reduced PM_{2.5} requirements but increased PM₁₀
 - Majority endorsement but some expressed concern about the increase in high-volume PM₁₀ and TSP
 - Modified requirement to reduce PM₁₀ high volume and TSP samplers
- Changed Statistics (forms and levels of aggregation)
 - Confidence limits at the site level for gaseous pollutants-Endorsed

Changed Term “Reporting Organization” to “Primary Quality Assurance Organization”

- Can reduce PM QA Implementation Burdens
- Will retain “reporting organization” role for another use
- In most cases RO will equal PQAO
- NADQ will work to reduce burdens of adding this role

Old Rule (before 9/27/06)	New Rule
<p>3.0.3 Each reporting organization shall be defined such that measurement uncertainty among all stations in the organization can be expected to be reasonably homogeneous, as a result of common factors.</p> <p>(a) Common factors that should be considered by in defining reporting organizations include:</p> <ol style="list-style-type: none">(1) Operation by a common team of field operators(2) Common calibration facilities.(3) Oversight by a common quality assurance organization.(4) Support by a common laboratory or headquarters.	<p>3.1.1 Each primary quality assurance organization shall be defined such that measurement uncertainty among all stations in the organization can be expected to be reasonably homogeneous, as a result of common factors. Common factors that should be considered by monitoring organizations in defining primary quality assurance organizations include:</p> <ol style="list-style-type: none">(a) Operation by a common team of field operators according to a common set of procedures;(b) Use of a common QAPP or standard operating procedures;(c) Common calibration facilities and standards;(d) Oversight by a common quality assurance organization; and(e) Support by a common management, laboratory or headquarters.

Probe and Siting Issues

- **Ozone Probe Siting Criteria**
 - Increased set-back distances from roadways
 - Clarified that this only applies to new sites, when implemented
- **PM_{10-2.5} probe height**
 - 2-7 meters for middle-scale; 2-15 for larger scales
 - Some criticism that 2 meters is too low due to ground effects; however, 2 meters matches our historical requirements and is a reasonable low end for breathing